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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,256	01/19/2001	Hongwei Mao	10-387 US	5898
26381	7590	12/14/2004	EXAMINER	
LACASSE & ASSOCIATES, LLC			CURTIS, CRAIG	
1725 DUKE STREET			ART UNIT	
SUITE 650			PAPER NUMBER	
ALEXANDRIA, VA 22314			2872	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/764,256

Applicant(s)

MAO ET AL.

Examiner

Craig Curtis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/19/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**1. Claims 1-7, 11, 13-17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yao (US 6,687,423 B1).**

With regard to claim 1, Yao discloses the invention as claimed—[a]n add/drop device (see, e.g., Fig. 10B, as well as polarization-insensitive device 900 in Fig 9A, which conditions beams; also see column 10, lines 66-67—column 11, lines 1-46) comprising:

first and second optically coupled polarising beamsplitters (see middle portion of Fig. 10B, polarizing beamsplitters (102) disposed in series); a wavelength filter disposed between the first and second polarisation beams splitters (see Fig. 10B); first and second polarisation rotators disposed between the filter and the first polarising beamsplitter and the filter and the second polarising beamsplitter, respectively (see, e.g., 916 & 926; also see column 10, lines 19-30); first and second input ports (C in each 1010, 1020) optically coupled to the first and second polarising beamsplitters, respectively, each of the first and second input ports for launching a beam of light having a predetermined polarisation (see Fig. 10B); first and second output ports optically coupled to the first and second polarising beamsplitters, respectively (see B in each 1010, 1020); and first and second polarisation switches optically coupled to the first input port and one of the

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first and second output ports, respectively, each of the first and second switches for selectably rotating the polarisation of a beam of light launched therethrough and configured to work in cooperation with the other (see 1010, 1020: column 11, lines 2-46).

**With regard to claims 2 and 3, Yao** also discloses wherein the first polarisation switch is operable in a first mode of operation that allows at least a portion of a beam of light launched from the first input port to be directed to one of the first and second output ports via the filter, and to a second state that allows the beam of light to be directed to the other of the first and second output ports bypassing the filter, and wherein the first and second polarisation switches are configured to be in one of a same and an opposite mode of operation and to switch between modes of operation synchronously such that a beam of light having a predetermined polarisation launched from the first port reaches the other of the first and second ports with a same polarisation. (See, in particular, 1010 and 1020 in Fig. 10B.)

**With regard to claims 4-7, 11, and 13 Yao** further teaches wherein each of said first and second polarising beamsplitters comprises an interface between two anisotropic crystal blocks with perpendicular optical axes for passing light having a first polarisation and for reflecting light having a second orthogonal polarisation (see Fig. 10B), each of the first and second polarisation rotators being quarter waveplates (*id.*); wherein the first input and first output ports comprise express input and output ports, respectively, the second input and second output ports comprise add and drop ports, respectively, and the second polarisation switch is optically coupled to the express output port (see circulators 1010 and 1020 in Fig. 10B); wherein the express input port and express output port are optically coupled to the first polarising beamsplitter, and wherein the wavelength filter comprises a transmissive filter that passes only a

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single predetermined channel (see individual wavelength symbols); and see third and forth [read: fourth] polarization switches (viz., circulators 1010 and 1020).

**With regard to claims 14-17**, please see structural teachings above, as well as the multiplexing teachings depicted in Figs. 10A, 10B.

**With regard to claims 20 and 21**, please see multiple input ports C depicted in Fig. 10B, as well as the method step teachings set out in claims 12-15 of **Yao**.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2. Claims 8-10, 12, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao et al. (US 6,687,423 B1).**

**With regard to claims 8, 18, and 19**, Yao discloses the claimed invention as set forth above--**EXCEPT FOR** an explicit teaching in a single embodiment wherein said wavelength filter is a multielectric filter. (In Fig. 10 B, filters 140A and 140B are taught as being multi-layer interferometric filters.) In Figs. 11A and 11B, however, said tuning filters are tunable and, alternatively, locked to the frequency of the input signal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Fig. 10A, 10B embodiments taught by Yao such that filter 140A and 140B be tunable (a common property

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of multielectric filters), for at least the purpose of enabling sufficient tuning discrimination with regard to input/output wavelength signals.

With regard to claims 9 and 10, please see Fig. 10A (specifically the various quarter waveplates depicted).

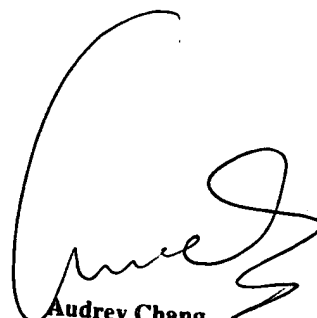
### Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig H. Curtis, whose telephone number is (571) 272-2311. The examiner can normally be reached on Monday-Friday, 9:00 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn, can be reached at (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Craig H. Curtis  
Group Art Unit 2872  
8 December 2004



Audrey Chang  
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